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Sunday, July 13, 1980, 1:00 to 5:00 p.m., Free*

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California Garden



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Garden Fragrance

by Josephine Gray

ONE'S FIRST THOUGHT about an ideal garden border is apt to be of fragrance, so I thought I would plan one made up mostly of fragrant annuals. However, when I began planning a fragrant annual border, I was amazed to find how few plants fall into that category. Alyssum, stock, mignonette, petunia, nicotiana, and perhaps the bush-type sweet pea could be used. A few herbs such as 'Dark Opal' basil, lavender, and sweet woodruff could be added, but even so all of them put together would not make an effective planting.

Herbaceous borders are made to sound almost permanent and easy to care for, but it turns out this is far from the truth, for plants such as daylilies, irises, and shasta daisies are strong growers and within a short time are taking over the border and squeezing out smaller or slower growing plants. So really we would have to give up the idea of an easy garden and plan one made up of annuals, perennials, vines, and shrubs—beautiful, and many of them fragrant, and all worth the work put into it.

The ideal background is a fence or wall where at least one of the old fence-roses (roses of memory they call them) can be allowed to lavish its bloom in early spring. 'La Reine Victoria' with its tightly folded cabbage-rose blossoms and heavenly perfume, is an old favorite; another is 'Cornelia,' a mass of tiny coral buds and sprays of fragrant pink flowers in March. A newer rose, but one that has been well tried, is 'Golden Showers'; it does literally shower one with its sweet-smelling sunshiny blossoms during March and much of April.

A vine that is beautiful on a fence is *Jasminum polyanthum*. In spring its tightly twisted pink buds open into clusters of waxy white fragrant flowers. You must however, keep it trained to a fence and cut back, for it roots easily and will invade. This characteristic makes it a fine and beautiful ground cover. In the evening, after the sun is gone, to walk near it is like approaching paradise.



Close up of *Angelonia grandiflora*

Toward the back of the border we can have fragrant geraniums at intervals. 'Apricot' and 'Clorinda,' or one of the rose geraniums are good choices. Though they are not fragrant, I should never want a border which did not have Canterbury bells, purple, blue, white, and pink set among the stock and mignonette; the stock may bloom earlier than the Canterbury bells, but no matter, if one gets the old fashioned modest-sized mignonette one will have sweetness.

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Nicotiana is a fragrant annual which comes in many colors—white, pink, rose, and others, including a sort of brick-dust which is most attractive. The seed catalogs list one, 'Lime Green'; I have not grown it so I do not know if it is desirable or just a fad. I have a "thing" about flowers which are forced into colors that do not come natural to them—blue roses, pink daffodils. To me it is like dyeing carnations green for St. Patrick's Day. At any rate, nicotiana grows tall enough to be among the larkspur and delphinium, and like petunias seems to send out a more intense scent toward evening.

There is a place too for carnations and pinks. For a long time I thought that carnations were not worth the trouble of trying to keep them upright by tying them to stakes. Then I discovered that if I used the twiggy prunings from trees and shrubs, stripped of leaves, the carnations could sprawl among the twigs and hold their chins up without looking tied to the stake.

A neat little shrub which is easily kept within bounds is breath of heaven, *Diosma ericoides*; it is green the whole year and its ferny foliage is fragrant, as are its inconspicuous little white or pink flowers. Little sprays of its bloom with foliage are attractive in a tussie-mussie. English lavender, *Lavandula angustifolia*, is an old favorite, and while not dramatic to look at, a few plants are most desirable in a fragrant border. There are other lavenders which can be used to advantage, *L. stoechas* for example. Its flower spike is rather dense at the top of the stalk and is very fragrant. The first year one thinks it is a small plant, but this is because it is a slow grower, which many times is an advantage in a border. When it is full grown it has a nice rounded shape and is about 3 feet tall.

There are a number of herbs which will grow happily in a sweet border. There are many artemisias, some more aromatic than others. 'Southern Wood' or 'Lad's Love' with its feathery gray branches, has a refreshing fragrance. When dried and stripped from their stems its leaves have a number of uses in potpourris and sachets of various kinds in combination with lemon verbena. If burned in an old pie tin it will absolve the kitchen of all cooking odors.

Lemon verbena, *Aloysia triphylla* (*Lippia citriodora*), is another desirable shrub which can be kept just the size you desire by judicious harvesting.

It has rough sweet-scented leaves and panicles of tiny white blossoms which I cut off as I harvest the branches. It does well when pruned rather sharply in the fall so that in the spring it is filled in by new and vigorous growth. An aromatic tea can be made from it, as well as sachets for linen cupboards.

There is one more lovely thing, heliotrope, *Heliotropium arborescens*. Though actually a perennial, usually it is grown in California gardens as an annual. It used to be called "cherry pie" though why I can not imagine for no cherry pie in my experience ever smelled remotely like it! It has a rather exotic, extremely sweet fragrance.

There is one more plant I must speak of, though regretfully, because I have found it to be unavailable for a number of years. This mention is in the way of a call, hoping someone may know of it and where to find it. This delightful thing is *Angelonia*. It is a rather small plant with spikes of blue flowers, though the charming thing about it is its fragrance of concord grapes, both in blossom and foliage. This is



Angelonia grandiflora, pale mauve and fragrant

particularly strong after the leaves have been watered, and it takes away all feeling of a chore which watering may produce at the end of a hot summer's day.

Here in this handful of plants is enough sweetness to last nearly the year around. A happy summer in your garden. □

Bonsai

A Short Overview

by Dr. Herbert A. Markowitz



Semi-cascade — Han Kengai

WHAT DOES BONZAI MEAN?

WHY DO YOU SAY BONSAI (BONE-SIGH)?

NOT BONZAI!

The word *bonsai* is Japanese—literally translated it means “tray tree” (*bon*: tray — *sai*: tree). It is the name used for small trees in a pot.

BONSAI

A similar word *bonzai* has an entirely different meaning—it is an exclamation or “hurrah!” and has nothing to do with plants or trees.

Bonsai are plants grown in pots, but trained and shaped to look like small trees. Some of these plants are in fact miniaturized trees which, if growing in their normal environment, could be more than 30, 40, or 100 feet tall. Some are actually very old, more than 100 or 200 years, and gnarled and bent with age. Others are young, but they are given the appearance of age by various means i.e. pruning, wiring, and root cutting.

ANY PLANT?

Any plant with a woody stem, that is almost any plant with a woody stem, can be trained and grown as bonsai. However the most durable and attractive bonsai, those that grow to a ripe old age, are trained from varieties and species of shrubs and trees such as conifers or broadleaf trees, both deciduous and evergreen.

WHO FIRST STARTED THIS?

WERE THE CHINESE GROWING THESE SMALL TREES MANY CENTURIES OR A THOUSAND YEARS AGO?

CHINESE
OR
JAPANESE?

There is no historical record of the origin of bonsai culture. From old pictures and scrolls it is assumed that the Chinese had dwarfed potted trees about 1500 B.C. Recently rumors have been circulated that small potted trees existed in India and the mid-East even earlier. A Japanese scroll about 700 years old shows a small potted tree. Regardless of where this horticultural art originated, the Japanese have been its teachers for centuries. This is truly a Japanese art form that has spread throughout the world. From Africa to the cold climates of the northern continents, bonsai societies hold workshops, exhibits and meetings.

JAPANESE
OF COURSE!

(Cont. on Page 104)

SIZE?

VERY BIG
OR
VERY SMALL



Free Style — *Bunjin*

OUTDOORS
OR
INDOORS?

There are bonsai grown in Japan that have been handed down from one generation to another. Some have actually been grown in pots for 300 or more years. In 1976 the Japanese helped the United States celebrate the Bicentennial by sending 53 bonsai to Washington. These are now housed in the National Arboretum. One of these trees has been cultured more than 350 years.

IS THERE A SIZE LIMIT?

There is actually no size limit, however the usually accepted height limit for showing in exhibits is about 4 feet—measured from the rim of the pot. They can also be very small—less than 3 inches. The very small ones are most difficult to start and grow because of the small tree's disproportion to the size of its leaves, fruit, and flowers. The bigger ones are easier to maintain, but are more expensive to pot and difficult to move about. (Some large bonsai pots cost as much as one thousand dollars.) Guide to the size of various bonsai:

Large (more than 36 inches)—*Omono Bonsai*

Medium (18 to 36 inches)—*Chumono Bonsai*

Small-medium (6 to 18 inches), can be lifted by one hand—

Katade Mochi Bonsai

Small (less than 6 inches)—*Komono Bonsai*

Very small (three can be carried on your palm)—

Mame Bonsai (Little Bean)

Smallest (poppy-seed size)—*Keshitsubu*

Whatever the size it represents a growing tree in miniature.

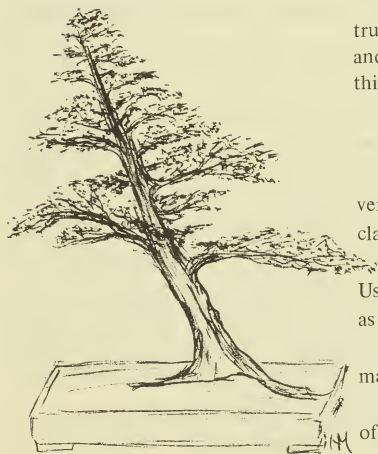
There is of course a limitation to the possibilities of miniaturization in horticulture. Nobody has found a method of really reducing the size of leaves, needles, fruit and flowers to actually be proportionate to the size of the tree. On some plants they would have to be only a few millimeters long. However the size of foliage and blooms of some species does reduce considerably with proper training, and some dwarf varieties of shrubs and trees almost get down to proportioned miniaturization size. In establishing the illusion of a fully grown giant in a small tray; bonsai culture becomes an art form. Time-proven methods cause branches to bend and twist, the bark of a tree to become rough and peeled. Careful pruning methods shape trees from the awkward uncontrolled growth of shrubs and plants. An elm bonsai may not be the exact replica of a full sized elm, yet you can see that you are looking at an elm (or other tree). A group planting of several Reeves junipers only 2 feet tall in a pot only 2 inches deep creates the sensation and illusion of a dense forest with trees over 100 feet high.

DO YOU ALWAYS KEEP BONSAI INDOORS?

No! Bonsai are OUTDOOR trees! They need fresh air, sun, water, and even wind, to look their best. For several years much research has been done on developing indoor bonsai. Essentially this amounts to creating an artificial outdoor climate indoors with artificial grow-lights, and so on. A few that can be grown indoors with relative ease, are

OLD
IS
BEAUTIFUL

SMALL
AND
OLD
IS
SHIBUI



Single Slanting Trunk — *Shakan*

Ficus benjamina, *Polyscias fruticosa* (Ming Aralia), *Crassula argentea* (jade plant), and Norfolk Island pine. However, even those I have mentioned do better if kept outdoors. Certain varieties need varying degrees of protection from hot sun in California in summer months.

SOME OF THESE TREES LOOK VERY OLD; HOW DO YOU ACCOUNT FOR THAT?

Some of them are very old. The oldest ones you see here are California junipers. They have been growing in our high desert regions for 300 or 400 years. They have been collected carefully, and skillfully potted in prepared soil mixtures so they can thrive in a shallow tray only a few inches deep. Their environment has applied the ravages of time—storms, drought, and freezing weather to make almost all California junipers into “instant bonsai.” However, only when in a pot or tray can one be correctly called a bonsai. Remember bonsai are trees in pots!

But we can also make younger trees look old and interesting. Here are a few of the methods used: (1) Trees or shrubs that have twisted, thick trunks are chosen. (Usually junipers are best for beginners.) The overall height should be about six times the thickness of the trunk. The trunk should taper from bottom to top. (2) The bark is peeled off in some areas. The trunk can be hollowed out, bent, and twisted. (3) Soil is removed from around the base of the trunk to expose strong thick roots. (4) Branches are bent and twisted to proper shape using copper wire to hold this shape. (Anodized aluminum wire can be used.) (5) Branches are broken off, the bark is peeled and the wood is bleached.

The above are elementary steps to get the tree started. I think the trunk and its visible root system are the most interesting parts of a tree and lend most to its appearance of age. So it is important to emphasize this detail of bonsai.

DOES IT HAVE A SPECIAL SIGNIFICANCE WHEN SEVERAL TREES ARE PLANTED IN ONE POT?

Yes, that is planted as a forest or grove. The group plantings are very interesting and can become quite complicated. They are usually classified as follows:

Yose-ue — Two or more trees (usually an odd number). Usually all the trees are of the same variety or species and are so arranged as to produce a forest or grove scene in a very shallow pot.

Sai Kei — One or more trees planted with rocks and moss to make a landscape or forest scene.

Ikadabuki — Connected roots or a so-called “raft” style. This is often done by planting a tree on its side just as one may find a fallen tree sprouting many trees in a forest.

ARE THERE MANY STYLES OF BONSAI?

Yes, their classification by style serves as a guide for the creation of realistic miniature trees. Trees have characteristic shapes depending on the species, the variety and the environment. There is a certain harmony or balanced proportion and rhythmic beauty in the form of a tree.

(Cont. on Page 106)

Cascade — *Kengai*Informal Upright — *Mayogi*

Reference:

Creating Bonsai from Nursery
Stock, by Dr. Herbert A.
Markowitz, *California Garden*
Mar-Apr 1979
Bonsai Observations, by Dr.
Herbert A. Markowitz, *California*
Garden May-Jun 1978
Bonsai Techniques by John Y.
Naka
Bonsai Manual, Third Edition,
The American Bonsai Society

Drawings by the author

SUMMARY

This is suggested in the following classification of styles: (An abridged classification and their Japanese names.)

- Upright Tree — *Tachi-gi*

- Formal-single straight, upright trunk — *Chokkan*
- Single slanting trunk — *Shakan*
- Informal-single trunk, curved or bent — *Moyo Gi*
- Gnarled trunk — *Bankan*
- Peeled bark trunk — *Shari Kan*
- Windswept — *Fukinagashi*
- Weeping branch style — *Shidare-zukuri*
- Free style-abstract — *Bunjin*

- Cascade — *Kengai*

- Semi-cascade — *Han Kengai*
- Several other forms

- Double Trunk — *So Kan*
- Double Tree — *So Ju*
- Sprout Style — *Kabudachi*
- Group Planting — *Yose-ue*
- Raft Style — *Ikadabuke*
- Rock Clinging — *Ishi Zuke*
- Group with Rocks — *Sai Kei*

Note: There are various other recognized sub-groups to cover the myriad subtle shapes seen in nature.

The wide variations in tree form give the bonsai grower freedom to create in miniature that which he sees in the forest, the park, on a mountain or any horizon.

I WANT TO MAKE A BONSAI.

HOW DO I GET STARTED?

It is really quite simple. There are five things to do. (1) Obtain a small plant. The best type is a small (one gallon size) prostrate juniper, *Juniperus prostrata*, from your local nursery. (2) Get a bonsai pot. The most inexpensive are now made of plastic. A clay pot is preferable. Make sure there are large holes for drainage in the bottom and that the pot is a dark brown or plain color, and unglazed. (3) Prepare some soil, using a standard commercial type potting mix and mixing it with an equal part of coarse builder's sand or decomposed granite. (4) Obtain some tools (a pruning scissors, a twig clipper, several inches of fiber-glass screen material, some small-gauge copper wire). (5) Gather the above items and attend a meeting of your local bonsai club.

The above advice is not given facetiously. It is the best advice I can give to save you wasted time and needless expense.

The members of the bonsai club will be pleased to help you get started; in addition you will have an opportunity to familiarize yourself with the customs and horticultural methods of bonsai and become a friend of bonsai.

This article has of necessity been a very superficial over-all view of bonsai. Bringing the forest to the home is a very rewarding hobby. □

PROPAGATION OF PLANTS

Cuttings

by George James

MANY OF THE ornamental and fruit-bearing plants we use today are propagated by means of cuttings, budding or grafting, division, or layering. Propagation by these methods is preferred over reproduction from seed because plants so propagated are identical in all respects to their parents while those from seed may differ in one or more ways.

Cuttings can be made only from plants that have a cambium layer—the layer of tissue just under the bark which produces new bark on the outer side and wood on the inside. This tissue is responsible for the increase in diameter of stems and repair of damage to the plant. Under proper conditions this tissue can be made to form roots on parts of the plant where roots do not ordinarily exist. There is a great difference in the speed with which plants form roots; some root quickly and easily while others may be almost impossible. Cuttings can be made at different times of the year, from different parts of the plant, and in a variety of sizes.

• TIP CUTTINGS

In the spring of the year, when plants are in an active growing cycle, tender new shoots can be used. These are known as tip cuttings, softwood cuttings, or greenwood cuttings. Fuchsia, some begonias, chrysanthemum, and many kinds of ornamental shrubs are propagated by means of tip cuttings.

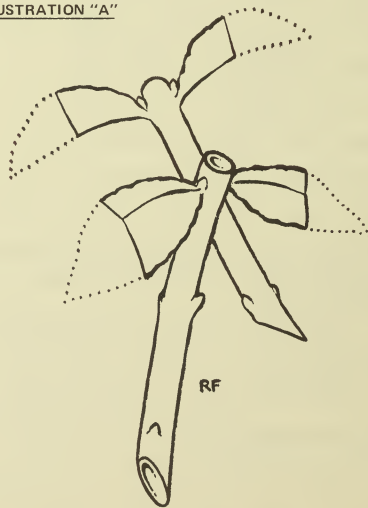
Marguerites are propagated from shoots which form on the sides of stems of the parent plant, the whole shoot being used, while carnations are grown from spurs—strong, stubby shoots that grow on the sides of flower stems or at the base of the plant. Geraniums root best from cuttings of new tip growth. This new growth can be stimulated by cutting back the parent plant.

Cuttings should be made from growth that is succulent enough to bend and snap cleanly; growth that is too old will not break clean, and growth that is too young will crush before it breaks. It is possible to make cuttings from growth that is too young or too old, but they will not root as well. Shoots that are about to flower should not be used. A cutting should

be at least two joints in length—a joint, in this case, is an internode or section of stem between two buds. Such a cutting will have a bud at its base, a bud in the middle, and a terminal bud at its top, or it may be longer and have several buds between the top and bottom.

The cutting is prepared by removing the side leaves if they can be stripped without damaging the bark, but if stripping tears the bark the leaves should be cut off. The top leaves should be reduced to less than half their length by cutting, being careful not to damage the terminal bud. Removal of leaves reduces the area that would give off water, hence the cutting is much less likely to wilt. Succulent cuttings should not be allowed to wilt before planting. A fresh cut is made across the bottom, just below the lower bud, and the cutting is ready to plant. After trimming, the

ILLUSTRATION "A"



(Continued on Page 108)

PROPAGATION (Cont. fm Page 107)

cuttings can be moistened and stored in a plastic bag or kept in a pan of water until they are to be planted (not more than a few hours or overnight).

• SEMI-HARDWOOD CUTTINGS

Semi-hardwood cuttings are taken in summer from mature growth that is flexible yet mature enough that it will not break cleanly. This is usually growth made early in the current year. These cuttings are sections of stem at least two joints in length, but can be longer, and should have three buds if possible. The foliage is removed from the side and the area of the top leaves reduced by cutting the leaves in half. (See illustration A.) If the top of the cutting is cut straight across and the base at an angle the top can always be identified and the cutting planted right side up. Large wood can be cut with clippers, but in this case the bottom cut should be smoothed by trimming with a sharp knife or razor blade. Heel cuttings are semi-hardwood or hardwood cuttings taken with a piece of the branch from which the wood was growing. This gives an enlarged base to the cutting and has a greater ring of cambium so should form more roots.

Hardwood or dormant cuttings are made in winter, usually from deciduous plants, so there is no concern with leaves. Some plants commonly rooted from dormant cuttings are poinsettia, fig, grape, mulberry, and all deciduous shrubs. The growth used is usually of larger diameter and the internodes are longer so the cuttings are much larger than those previously described. Use pieces of stem with three buds; cut the bottom on a slant and the top straight and, if shears are used, smooth the bottom cut by trimming with a knife or razor blade. These cuttings can be planted directly in the garden but in most cases if this is done, they cannot be safely transplanted while in growth. They can be rooted in pots or cans and then transplanted, if they can be removed from the container without disturbing the roots.

• LEAF CUTTINGS

Leaf cuttings can be made from certain plants having fleshy leaves. Examples are African violets and rhizomatous begonias, neither of which have much other growth that could be used for cuttings. The leaves of the begonias are large and may be reduced to less than half their size by cutting off the edges.

The best leaves to use are those of middle age; old ones are getting ready to die and young ones are not well enough supplied with food to support them-

selves until roots are formed. The leaf to be used for a cutting is taken with a piece of stem that is long enough to bury. New plants form around the stem at the surface of the medium in which it is planted. Splitting the stem a short way from the bottom will stimulate the formation of new plants.

• ROOT CUTTINGS

Plants that develop suckers can be propagated by cuttings made from their roots. The sprouting of suckers indicates that the plant has the ability to form growth buds on its roots. Sections of root are laid on the rooting medium and covered about half an inch deep. When new shoots show above ground the parent root is cut into sections, each with its sprout, and potted as other cuttings are when rooted. Some plants that can be grown by this method are rice paper plants, *Tetrapanax papyriferus*, bear's breech, *Acanthus mollis*, and Matilija poppy, *Romneya coulteri*.

• ROOTING HORMONE

The development of roots on cuttings can be hastened and improved by the use of a root-forming hormone. This is a powder into which cuttings are dipped before planting. Dip the portion of the cutting that will be inserted in the planting medium in the hormone, then tap the cutting to remove any excess powder.

After a cutting is planted a callus grows across the base and from this the roots will develop. Roots often grow also from the cambium at any point below the surface. The tops of cuttings may start to grow but this should not be taken to mean that roots are forming. Some kinds of cuttings, roses are one, may form the callus but no roots; the cutting will remain green in the rooting medium until all the stored plant food is used up, and then die. It is said that if after the callus has formed a thin slice is cut off, roots will then grow. The only way to tell if a callus or roots have formed is to remove the cutting from the rooting medium and look at it. If roots have not formed the cutting can be treated again with rooting hormone and replanted.

• OPTIMUM PLANTING PRACTICES

Several things influence the rooting of cuttings. First, use plant material that is in the proper condition and remember that even with the most perfect of conditions there will be some kinds of plants that are not likely to root. The temperatures of the medium in which the cuttings are planted and of the air

around the tops of the cuttings have much to do with the success of the rooting project. The optimum temperature is between 60° and 70° F. The container in which the cuttings are to be planted must have drain holes and should be deep enough so that cuttings can be buried about half their depth. Light is needed, but not full sun; a shaded patio, a lath house, or space under a tree will have adequate light.

Moisture is needed too, but only enough to keep the medium moist; more than that lowers the temperature around the roots and encourages decay organisms. High humidity is helpful and this can be provided by misting the cuttings frequently. The container and the cuttings can be enclosed with plastic or, if the rooting container has deep sides, a pane of glass can be used to cover it. The cover should be removed daily so water that has condensed can evaporate; this is best done during the warm hours of the day.

• PLANTING MEDIA

The rooting medium should be sterile or one that can be sterilized easily. Builder's sand serves well and can be sterilized by pouring boiling water through it. Sponge rock and peat moss usually are free of organisms that would harm cuttings and a mixture of equal parts of these works well. Both sand and the sponge rock and peat moss combination crumble easily, so cuttings can be taken out with little damage to their roots, and both drain well so decay is unlikely.

• PLANTING TECHNIQUE

Put wet medium into the container and tamp solid. Make a trench with a broad bladed tool, such as a putty knife, or make holes with a dibble (a stick like a sharp pencil), and put the cuttings in place. If the medium crumbles into the planting hole before you can get the cutting in, it is too dry and should be watered.

Fill in the medium around the planted cuttings, water, and then firm. A piece of wood laid along side the cuttings and hammered is the best way to get the firmness desired.

• CONTAINERS

Flower pots are sometimes used to hold cuttings being rooted and a small number of cuttings can be covered with an inverted jar to maintain humidity. Other containers that may be used are plastic pony packs, leaky plastic buckets, or wooden boxes. Sterilize containers that have been used before by washing them in a 1 to 10 solution of household

bleach and water.

Leaf cuttings or other small cuttings can be rooted in a plastic bread box; it can be closed to maintain high humidity, but it should be ventilated daily.

Another system of rooting cuttings is to use a plastic bag as a container. Moist medium is placed in a large plastic bag and the bag suspended in a suitable place. Holes are punched in the bottom so excess water drains away. (A sharp pencil works well for this.) (See illustration B.) Small cuttings, such as

ILLUSTRATION "B"



most tip cuttings, are put into small holes punched in the sides and watered with a fine spray. Some of the water will run down each cutting and wet the medium at its base. These will need frequent watering, perhaps once a day. After the cuttings show roots, the bag is torn and the cuttings are taken out and potted.

• TRANSPLANTING CUTTINGS

Cuttings should be transplanted before they develop too great a root system. In most cases, it is best to transplant to pots so that a better root system will be formed, rather than set at once into the garden.

(Cont. on Page 110)

ILLUSTRATION "C"



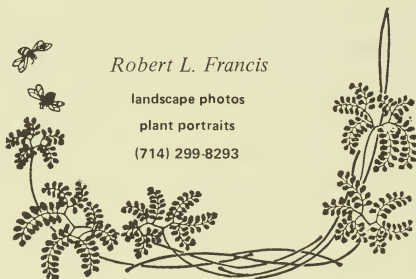
(See illustration C.) Use the smallest pot that will comfortably accommodate the roots of the cutting being handled. Commercial potting soil, obtained at most garden supply stores, is suitable. Place cuttings in the pot and work soil in carefully around the roots, firm it well, and then water. Cuttings will grow better if they are placed, after potting, in an environment similar to the one in which they formed roots. Cuttings that have been covered during the rooting period should be hardened off by removing the cover for a week or ten days before potting. To determine whether young plants have become well rooted, knock one out of the pot—if the ball is well covered with roots, it is ready to transplant. Plants grow faster when there is plenty of room for root development, so shift to a larger pot or set in the ground when the roots are starting to crowd the original pot. It is likely that not all cuttings will be rooted and those that are not can be re-treated with hormone and replanted until their roots form.

• CAMELLIA CUTTINGS

Camellias can be grown from cuttings, but they are slower than most others to root, taking about 90 days, while other cuttings are ready to transplant in about half that time. Both of these time estimates

can vary with the kind of plant, the condition of the material from which the cutting was made and the temperature, since these all have a bearing on the time it takes to form roots. Camellia cuttings are best made from spring growth which is just starting to get brown bark. Usually this occurs in June or July. Cuttings should have at least three joints and are prepared by cutting off side leaves and cutting the top leaves in half. Cut the bottom just below a bud; treat with hormone and plant. Warmth and humidity are necessary and it has been found that planting a few cuttings in a pot and covering them with a glass jar is an effective way to grow these cuttings. Before being transplanted they should be hardened off by uncovering for progressively longer periods each day. From that point follow directions for potting other cuttings.

PROPAGATION OF PLANTS is not only a fascinating hobby, but it saves money too! ☐



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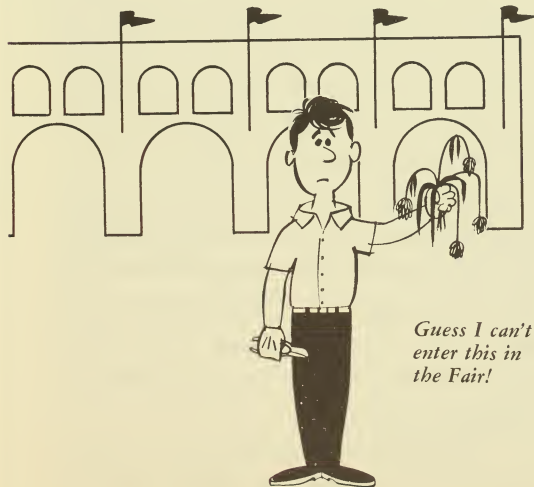
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Dill, besides being used in pickles, cured hiccups, warded off witches and quieted the baby. The name DILL means "lull" because of its ancient use.

B.K.



THE BOOK SHELF

THE MIRACLE HOUSEPLANTS: The Gesneriad Family, by Virginia F. & George A. Elbert, Crown Publishers, Inc., New York, 1976, 242 pages, 100 Illustrations, \$9.95

Do not let the name confuse you—African violets are gesneriads. These experienced growers and authors have written a complete “down to earth” book which should be useful and informative to both the beginner and the experienced gardener. They even tell how to pick out a good plant.

Some of the beautiful flowering plants in this family will undoubtedly inspire the houseplant grower to include them in his indoor garden. A glossary of words used in the book and a list of plant sources can be found at the end of the book. This beautiful book would make a wonderful gift for a houseplant “enthusiast.”

Reviewed by *Barbara Jones*

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BUSH

by Dr. Janice

USUALLY WE HEAR them first. A chorus of light, twittering notes begins to intrude on our thoughts and we discover to our surprise that the gentle sounds literally pervade the bushes and trees around us.

Looking up, we can find the source of these notes in the form of tiny (about 4 inches long) brownish-gray birds with short bills and long tails. They are called bushtits and have the rather imposing scientific name of *Psaltriparus minimus*. Related to the chickadees and titmice, bushtits are common residents of San Diego's gardens and natural habitats from the coastal scrub up into the mountains. They are found throughout California except for the deserts and higher areas of the Sierra Nevada and their range

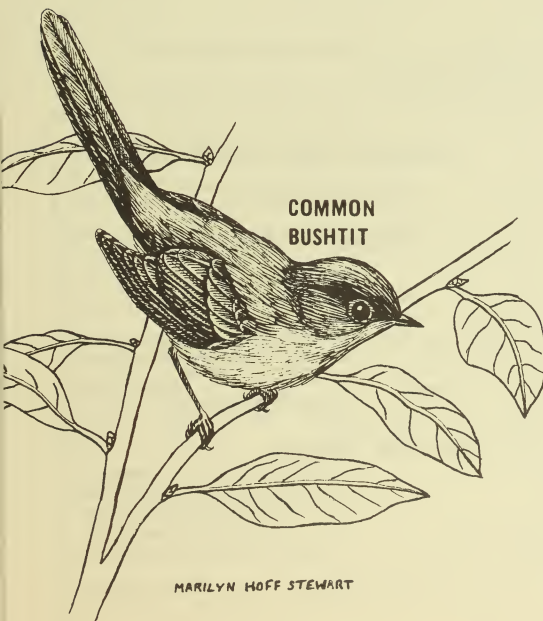
extends from southwest British Columbia to southern Baja California and east to Oklahoma. Bushtits are active close to man and not easily disturbed by our presence, a fact which affords us delightful opportunities to observe their interesting antics.

Bushtits are very gregarious and most of the year they travel in loose, straggling flocks of up to 30 birds (some observers have counted over 70!). The advantages of this flocking together include more eyes to find food and detect enemies. So, like a gray cloud, bushtits drift through trees and shrubs, and as they cross open spaces, first a few, then the main body, and finally the stragglers flitter by in a fascinating parade. On these foraging excursions, the birds rapidly glean through the foliage searching for tiny insects among the twigs and leaves. Like gymnasts, they acrobatically hang from the tips of slender, swaying twigs using their long tails to control balance and movement.

From our perspective, bushtits are one of the most useful of all birds in that 75 percent of their diet is composed of insects. Many, such as caterpillars, beetles, plant lice and scale insects, are anathema to the gardener and are so tiny as to be missed by larger birds. The remainder of the bushtit's diet consists of spiders and plant materials.

The call notes that announce the flock as it moves through an area are very important in keeping the birds together. Bushtits are not brightly marked and they are usually hidden from each other in the dense foliage (they can't see through leaves any better than we can). Their only way of keeping in touch as they feed is by constantly conversing, and the faster the flock travels, the louder and more frequent are the call notes since the risk of individuals becoming separated is increased.

When danger appears in the form of a predatory hawk, bushtits react in a most interesting manner.



BUSHTITS

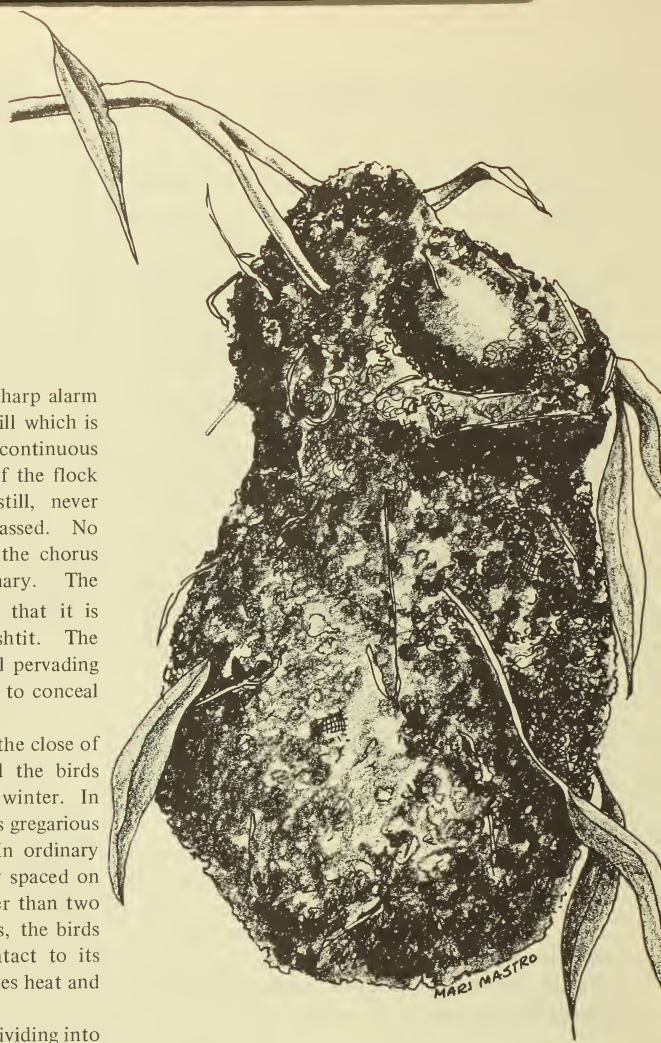
by K. Victoria

The first birds to detect the hawk utter sharp alarm notes and then begin a shrill, quavering trill which is taken up by the whole flock until there is a continuous chorus. Simultaneously, every member of the flock stops moving and remains absolutely still, never moving a feather until the threat has passed. No matter how close the hawk approaches, the chorus continues and the birds remain stationary. The remarkable result of this united cry is that it is almost impossible to locate a single bushtit. The chorus forms an indefinable, confusing, all pervading sound of uncertain direction which serves to conceal the individual birds.

The foraging flocks are formed at the close of the breeding season in late summer and the birds remain together throughout the fall and winter. In the colder parts of their range, the bushtit's gregarious nature has another survival advantage. In ordinary weather, they roost at night rather evenly spaced on branches with no two birds closer together than two inches. But on exceptionally cold nights, the birds roost in a row, each bird in snug contact to its neighbor. This nighttime clumping conserves heat and increases the chances of survival.

By winter's end, the flocks begin dividing into smaller and smaller groups and eventually, after a period of courtship, pairs are formed and territories established. In contrast to the communal behavior observed during the rest of the year, the pairs actively defend their territories against other bushtits. For the duration of the breeding season, they will deal with the important business of rearing young.

First comes the construction of the nest. By bird standards, the bushtit nest is a work of art and a marvel of avian architecture. It is a long, gourd-shaped structure, 6 to 12 inches in length and 3 to 4 inches in diameter. One giant-sized one, obviously built by an overenthusiastic pair, measured 21 inches! The top of



the nest is woven around small twigs in a bush or tree; the rest of the nest hangs relatively free. Despite its large size, the nest is not easy to locate since it is more or less concealed in the foliage and decorated for camouflage. Even nests that are in plain sight tend to look like accumulations of plant debris and are easily overlooked.

The nest entrance is a hole near the top, usually on one side. It drops down into the brood chamber. The nest is very soft to the touch and is made from a marvelous array of materials including mosses, lichens, grasses, oak leaves, flowers, bark

(Continued on Page 114)

BUSHTITS (Cont. from Page 113)

fibers, plant down, pine needles, feathers, rootlets, fine twigs and bits of paper, string, and insect cocoons. These are bound together by delicate strands of spider web. Inside, the brood chamber is lined with the softest feathers, plant down and fur.

It is an incredible accomplishment for such tiny birds to build this large, complex nest, and both members of the pair spend long hours working on it. If the nest is started very early in the breeding season, when motivation levels may be low, the birds may take up to 51 days to build it. But at the peak of the season, the nest can be completed within 13 days.

After the nest is built, a clutch of from 5 to 7 tiny, unmarked white eggs are laid. Incubation begins on the day the last egg is laid and is done by the parents taking turns during the day and staying together in the nest at night. Twelve to thirteen days later the tiny bushtits hatch virtually naked and blind. Their eyes open 8 days later, feathers grow and the fledglings leave the nest 14 to 15 days after hatching. This latter event is rather exciting to watch for the young birds leave the nest almost all at once, giving the distinct impression that the nest has exploded. The young bushtits will follow their parents around for the next 8 to 14 days, begging loudly for food before they are able to forage for themselves.

A given nest may be reused during the same breeding season or even different seasons by the same or a different pair of bushtits.

At the end of the breeding season, flocks are once again formed and the delightful cycle of bushtit activity patterns begins anew, adding interest and wonder to our lives. □

Janice K. Victoria is director of educational activities, San Diego Natural History Museum

Common bushtit bird drawing by
Marilyn Hoff Stewart

Bushtit bird nest drawing by
Marj Mastro

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Nylons and Pots Advice from an Expert Gardener

STUFF DRAINAGE HOLES with a ball of nylon stocking instead of using pieces of shard or pebbles in the bottom of flower pots. This nylon ball is equally effective in clay, plastic, or ceramic containers. It provides perfect drainage, prevents soil from shifting through when watering, never shifts or plugs up the drainage hole, and lasts for years. Anuta Lynch who used this method for years found the nylon still intact in a pot after ten years.

Roll and squash a piece of nylon stocking into a ball slightly larger than the diameter of the hole. Then, using your thumb or a pencil, stuff it firmly into and partially through the hole. Be sure it is very tightly stuffed, then it should remain indefinitely. For large pots, if one runs short of nylon, wrap some sphagnum moss inside the nylon balls and proceed as above.

For small plastic pots, cover the bottom, inside the pot, with nylon and extend it up the sides about one and one-half inches, using several layers of nylon or the heavy top part of the stocking. Place it carefully, being sure to cover all four holes. Sift the soil into the center of the pot first, then out to the edges so it will hold the nylon in place.

This is one expert gardener's advice for happy potted plants. A.M.

THE BORN-AGAIN CANNAS

by Rosalie Garcia

A PLANT THAT is easy to grow usually has a hard time achieving status and appreciation. Such is the case with the canna that has been around a long time in parks, cemeteries, street parking strips, and plantings to hide garbage cans. It was usually tall and green with a few spikes of red and yellow flowers.

In the last thirty years, beginning with European hybridizers, the tedious work of creating beautiful cannas has produced many new colors in both bloom and foliage. Cannas now range in hue from soft ivory to rich blood red—still no blues or purples. Foliage may be variegated, bronze, or one of many shades of green. Leaf shapes vary from broad and upright to narrow and pointed. The flowers are most often large and four-petaled with four inner petals. Some of the new ones are single petaled like a poppy and others are small singles that bloom all at once reminding one of a hyacinth or watsonia. I have two of these, a brilliant scarlet and a beige with a ruby throat.

Rosalind Sarver explained why there are so few canna hybridizers as she pulled off two petals and showed us the stamen embedded deep in the center of the blossom. "See that small amount of pollen on the side of the stamen. It is tedious work to obtain enough for research." Mrs. Sarver, of San Marcos, California, is one of the few growers of cannas in the west.

Cannas are now grown all over the world in the temperate and tropical zones, but were first found in tropical Asia. Bailey's *Cyclopedia of Horticulture* lists about a dozen species. These have been mixed and interbred until they are so different from their ancestors that it takes a real expert to trace the lineage of our gorgeous delicately tinted flowers of today.

Bailey does mention one species, *Canna edulis*, which has edible tubers. I have never seen this one or known of anyone who has eaten it, but if grocery prices go any higher, I look for the cultivation of such a prolific plant as this canna. We do use the roots of ginger for food and seasoning and this may account for some people confusing cannas and gingers. There is some similarity in foliage and blossom, but the



Canna 'Striped Beauty'

plants are of two different families and are distinguishable by foliage and stem structure, as well as bloom. Both are tropical, but most gingers are evergreen while cannas die down in the winter or after flowering. In a Mediterranean climate they never go completely dormant.

Like the three bears, cannas come in three sizes: big or tall, to 10 feet; middle-sized, 4 to 6 feet; small or dwarf, to 3 feet. The ones we see most often are the middle-sized or French cannas with large orchid-type flowers in breathtaking corals, muted pinks, golds, oranges, reds, and less often, ivories. A pure white is rumored to be a reality, but I have not seen it. Due to the trend toward urban living and small gardens, patios, or balconies, the dwarf cannas or Pfitzers are the coming varieties. They lend themselves to cultivation in narrow beds, tubs, boxes, or pots, and promise color from 6 to 9 months of the

(Cont. on Page 116)

year in warm climates. A stem of cannas may have as many as twenty buds that will open over a period of ten days or two weeks, but a single flower lasts at best less than two days, and most of the buds do not open after the stem is cut. The foliage lasts for days and is often used in artistic arrangements.

Since cannas are tropical in nature and origin, they thrive beautifully in the subtropical climate of southern California, even if they are a drain on our limited water supply. They thrive best in rich loose loamy soil with a good dose of a balanced fertilizer, but what they must have above all else is water and full sun. They are not shade plants.

If fertilized and watered, a stalk may produce three or four branches, but when all have bloomed, it should be cut down to the ground to give room to another that is ready to come up an inch beyond the old one. Few plants multiply faster than cannas. After two years, they will become root bound if not dug up and divided. In climates with freezing temperatures, dig the rhizomes every year, store in a dark dry place and replant in the spring.

Cannas do not like wind. They like a warm back against a fence or wall, or in fields planted on hillsides with prevailing winds behind the hills. Even though they need lots of water, our modern ones thrive on good drainage. Their roots are shallow, but they should be planted deep enough—at least 6 inches—to support the tall plants. The dwarfs need to be at least 3 or 4 inches deep to make the plants secure. When planting in a pot, set the blunt end of the rhizome near one side to give space for the new shoots that grow from the pointed end. Needless to say, the pot should be large enough for them to multiply.

Local nurseries have only a few rhizomes for sale, so where does one get these modern beauties? I asked Rosalind Sarver, local expert and local supplier, where she gets hers, and she answered, "Here and there." When she hears of a different one, she sends for it and so has gradually accumulated and now grows nearly all of the best of the new ones. No canna society of amateurs exists as a source of information and enthusiasm to encourage big canna nurseries. Most of the growers of any size are in the east and south and they do not put out special canna catalogues. Our own Rosalind Sarver is the best source in the west.

Cannas do have names now which give them distinction. They are mostly the French and Pfizer.

The Grand Opera series of French cannas is among the most beautiful and popular. Among the pinks is 'Madame Butterfly'; the corals are 'La Boheme' and 'Mignon'; one of the yellows is 'Rigoletto'; another yellow by Dr. Webber of King City, California, is 'King City Gold.' Mrs. Sarver thinks 'The President' is the best red. 'Lippo' is an orange-scarlet, and an exciting arrival from New Zealand is 'Stadt Fellbach,' a gorgeous orange with bronze foliage.

Novelties abound, especially among the Pfizers, that are speckled, splotched, striped red and yellow on red, or yellow edged in gold, filling one with wonder at how variable nature can be. A bed of these cannas can be an inspiration to get up in the morning and go out to see what has opened during the night. □

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Let's Meet the Genus *Nemanthus*

Goldfish Plants

by Mike Ludwig

Nemanthus
'Stoplight'

Nemanthus with their colorful blooms and beautiful glossy foliage have become popular, both indoors and outdoors, under their descriptive common names of goldfish plant, guppy plant, candy corn plant, thread flower, and other names that include the words pouch flower.

The culture of *nemanthus* is simple. Indoors, they should be planted in loose and porous soil on the slightly acid side, given bright light, and temperatures that are comfortable for you (not above 80° F.). Water thoroughly, but allow the soil to dry slightly between waterings. They will even tolerate a lower humidity than their cousin the African violet (*Saintpaulia*).

Outdoors, this plant is equally easy to grow. A soil mix consisting of 1 part peat moss, 1 part perlite, 1 part vermiculite, plus 2 tablespoons of lime to the quart will work either indoors or out. Or use

your favorite mix for begonias, ferns, or fuchsias.

These semi-epiphytic plants require shading in a garden so place them with any of the above mentioned plants and they will respond very well. Leaf drop will occur if there are temperature extremes or overwatering. Watch temperatures and keep them in the 80° to 60° F. range both summer and winter, but a 5 degree plus or minus will not do excessive damage unless for extended periods of time. I grow mine outside all year in an area in San Diego with coastal influence. The plants have a glossy appearance, in most cases, and will lose this if left too long without water, but it is necessary to let the soil become slightly dry between waterings.

When well grown, the plants need pinching to maintain a compact bushy form. These fibrous-rooted gesneriads root easily from stem cuttings either in a

(Cont. on Page 118)

LET'S MEET THE GENUS NEMATANTHUS

(Continued from Page 117)



Nematanthus
'Tropicana'

propagating box or in a pot.

Nematanthus are members of the family Gesneriaceae, which includes African violets, *Columnnea*, *Streptocarpus* and the florist gloxinia. The genus comes from Brazil where it was found by German botanist Heinrich Adolph Schrader in 1821 and given the name *nema* signifying thread, and *antha*, flower. The shrubs and vines of this genus have similar leaf and flower characteristics and habitat requirements. *Nematanthus* are recognized by their woody stems, leaves that are usually thick and succulent in nature, and compressed fruits that split into two spreading valves exposing their shiny seeds in spongy placentas. Sometimes the flower is resupinate or twisted on its pedicel (stalk), presenting the anthers (tip of the stamen) in an upside down manner. The hybrids are fertile and the chromosome count of *Nematanthus* is $n=8$, the same as *Codonanthe*. There is a cross between these two genera.

• SPECIES

Species of *Nematanthus* as listed in the *Nematanthus Register*, 1978, published by The American Gloxinia and Gesneriad Society:

N. fritshii—large plant with red blotches under leaves. Long pedicels bearing pinkish flowers. A parent of 'Stoplight.'

N. gregarius—slow growing plant with dark green glossy leaves. Orange flowers borne near leaf axils which is a characteristic of former *Hypocyrta*. A variegated sport, 'Golden West,' was found in the garden of Thelma O'Reilly of La Mesa.

N. longipes—another large plant with leaves similar to *N. fritshii*, but without the red. Flowers are red-marbled orange. Parent of 'Stoplight.'

N. nervosus—inflated red flowers with yellow

marks. Leaves are moderate and stems have flattened hairs at their tips.

N. perianthomegus—flowers are yellow, longitudinally striped maroon with the dark orange calyx remaining after the flower. Larger than above.

N. strigillosus—stiff hairs cover the leaves, which are soft and thick, narrow and sharply pointed at the tip. Flowers are scarlet with orange throats borne in leaf axils.

N. wettsteinii—the candy corn plant. Small leaved species slow growing and branching. Flowers are orange tipped with yellow, thus the common name.

• HYBRIDS

'Bambino'—small plant similar to *wettsteinii*. Red on leaf backs.

'Bijou'—dark leaves with flushed red undersides. Peach flowers.

'Black Magic'—this and 'Green Magic' from same seed cross. Red undersides for first. Pendant flowers of scarlet and yellow marks.

'Butterscotch'—golden yellow flowers giving effect of butterscotch candy.

'Castanet'—flower of peach color and leaves having defined red splotch on underside.

'Marianne W.'—blooms repeatedly with orange-red flowers. Leaves red, flushed and glossy.

'Moonglow'—green leaves and pale cream flowers, speckled with dark red at mouth. Very nice plant.

'Rio'—scarlet shiny flowers, fleshy green leaves.

'Stoplight'—large plant with red blotches on leaves and long pedicels of purplish red on which the reddish flowers hang.

'Tropicana'—shiny dark green leaves. Golden yellow flower with chestnut stripes sits on russet and wine red calyx.

While 'Tropicana' is a favorite of mine, why not visit the gesneriad show or nurseries and find your favorite *nematanthus* to add a colorful accent to your decor or landscape? □

References:

Nematanthus Register, published 1978, AGGS
The Miracle Houseplants: The Gesneriad Family
by Virginia F. & George A. Elbert

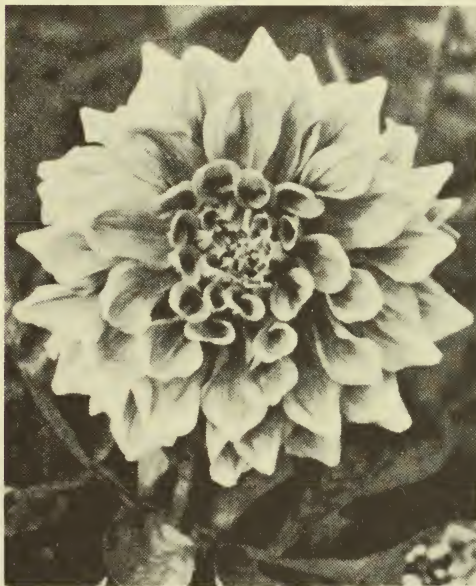
Drawings by Pat Maley

Mike Ludwig is president of the San Diego Gesneriad Society

DAHLIAS

by Gerald L. Lohmann

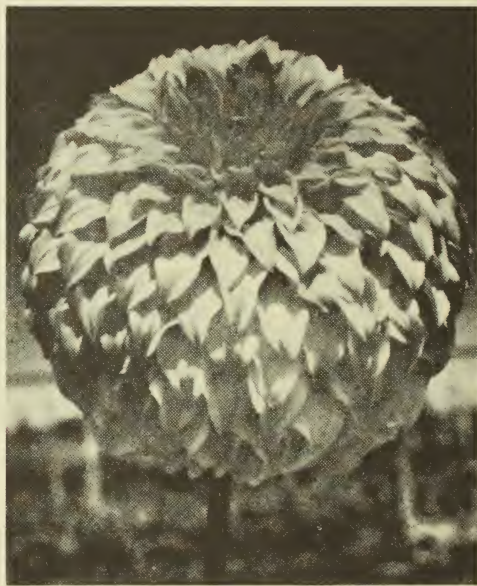
WHENEVER OUR DAHLIA society stages a show the comments often heard range from "Gorgeous" and "Unbelievable" to "My mother used to raise dahlias", "My grandfather raised the most beautiful dahlias," or "I didn't know dahlias would grow here." These random remarks raise some interesting questions. Why are dahlias referred to as flowers once grown by relatives or acquaintances, rather than as currently popular garden plants?



'Col. Eddy'

from the lowly dandelion to the majestic dahlia and includes many of our common garden plants.

Dahlias were known to exist in the country of their origin, Mexico, for over four centuries. Explorers sent out by King Philip II of Spain found them growing wild on high sandy areas. These were mostly singles in shades of red and yellow, but some were blackish or white and others had double or multiple rows of florets. It is believed that the Aztecs even



'Edna C'

Dahlias really are easy to grow. So easy in fact that they often are semi-neglected and while those gardeners admire the beauty of the flowers they grow, they never realize that they are probably seeing only half the beauty the dahlia has to offer. When given a little bit of extra care and more ideal growing conditions dahlias can be the spectacular centerpiece of any garden.

The dahlia is a member of the largest family of flowering plants, the Compositae, which ranges

cultivated them and they were known by the names Acocotli and Cocoxochitl, from the hollow stems which resemble water pipes.

The dahlia was introduced into Europe in 1789 by the Royal Botanical Gardens at Madrid. The plant was then named *Dahlia*, after the famed Swedish botanist Dr. Andreas Dahl (pupil of the great botanist, Linnaeus), who devoted considerable time to its development. As the dahlia came into more

(Continued on Page 120)

DAHLIAS (Cont. from Page 119)

general cultivation it soon showed its versatile nature, doubling and redoubling its petals, producing new types, and new colors, while retaining its neat and regular shape. In 1826 there were 60 varieties cultivated by the Royal Horticultural Society of England, but the introduction of the first cactus type, *Dahlia juarezii* in 1864 gave real impetus to the development of new varieties. Most of today's dahlias have descended from *D. variabilis* and *D. juarezii*. A traveler in 1915 noted that the wild dahlia growing high on the slopes of the southern range of the Sierra

The older varieties eventually are replaced by new and more beautiful dahlias as they are introduced.

One of the world's leading propagators of new dahlia varieties, a San Diego County resident and co-founder of the San Diego County Dahlia Society is R. Paul Comstock. In a single year Paul may grow two thousand or more seedling plants and discard all but five or six he feels might be worthy of growing again. And maybe four or five years later one of those might have proven itself to be of such excellence in color, form, or growth habit that it will be marketed as a Comstock introduction.

The dahlia is an extremely versatile flower. It grows in a number of flower forms, in all colors except blue, and in a large range of sizes. In form, a dahlia can be: single-flowered (a single row of ray florets, with an open center), anemone-flowered, peony-flowered, orchid-flowered; a collarette, ball, pompon, decorative (formal or informal decorative), cactus (straight, incurved, or semi-cactus).



Left: 'Curiosity'

Below: 'Emory Paul'

de Ajusco was the variety from which the cultivated dahlia originated.

Dahlias now have a longer blooming period and are sturdier, with more robust growth habits and firm straight stems. Since its discovery and further development, principally in England, Holland, United States, and Australia, there have been hundreds of thousands of varieties grown; over thirty thousand of them have been named and distributed in commerce. This is due mainly to the fact that when a dahlia is grown from seed the resulting bloom is different in one or more ways from any other dahlia. To grow the same variety and have the same form and color of bloom year after year, growers must plant the tuberous roots or make cuttings from the particular variety they wish to grow. The new varieties, then, are developed mainly from seedlings, although once in a while a sport of an outstanding variety is saved and propagated.



In size, dahlias can be:

AA(Giant)—over 10 inches in diameter

A (Large)—8 to 10 inches

B (Medium)—6 to 8 inches

BB (Small)—4 to 6 inches

Miniature—up to 4 inches

Dahlias will do well in any soil and in a wide variety of climates, but a good garden site for dahlias would be one that is in full sun or at least receives several hours of sunlight per day, is well-drained and has humus-rich loose soil, preferably slightly on the acid side.

In San Diego and other mild climate areas dahlias can be planted in March and April and will bloom from June through September and October. They should be planted about 5 inches deep and approximately 2½ feet apart. Many growers place the tuber in the hole and cover it at first with 2 or 3 inches of soil, then fill in the rest of the soil up to level as the sprout grows. The larger varieties and some of the smaller ones should be staked, so the stakes should be placed at the time of planting. Plants should be topped (pinched out) to make them more bushy, when there are two or three full sets of leaves for the large and medium varieties, four to six sets for the others except the low-growing Top Mix types (single flowers approximately ½ inch to 1 inch in diameter) and bedding varieties, which are grown without pinching. Plants grown for exhibition purposes are more strictly controlled and the gardener who wishes the best possible bloom is advised to follow the guidelines for growing show-quality blooms. However, for general garden decoration much of this pinching may be omitted. Plants will then be bushier and will produce more, but somewhat smaller, blooms. The bushier plants are more appealing in the landscape than the one-purpose show plants.

Dahlias should be watered deeply once or twice a week in areas without summer rain. The soil should be cultivated and kept loose, but later in the summer it might be beneficial to mulch, both to prevent possible damage of roots close to the surface and to retain soil moisture. Of course good gardening practices pertain for control of pests or mildew. Dahlias prefer a slightly acidic fertilizer 4-10-10 is just about perfect, and late in the season a little potash worked in around each plant will promote good tubers. The tops should be cut down in late October or November, and the clumps of tubers dug and stored

before heavy rains start later in November and December.

There are many, many dahlias grown throughout San Diego County, but mostly in backyard gardens. Even those who grow them for exhibition usually raise them in neat rows or raised beds in their backyards and, while the beauty of the bloom might be seen on the show bench, those people who do not go to a dahlia show might never be aware of what a wonderful addition to their garden dahlias could be. Dahlia exhibitors are always eager to tell others about their favorite flower, but maybe they should put a few of their gorgeous prize-winners out front for more of their friends and neighbors to admire.

Of course, I am just a little prejudiced, but I say the dahlia should be in every garden. It is a magnificent flower that can be grown in virtually any garden as it affords one such a wide choice of types and size, from the ½ inch blooms of the Top Mix types to giants over 17 inches across, in all colors except blue, and will give blooms from June or July through September and October. □

Mr. Lohmann, president of the San Diego County Dahlia Society, not only grows prize-winning dahlias, but still finds time to be a scoutmaster.

NOTE: See page 122 for "Guidelines for Exhibition of Dahlia Blooms"

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Guidelines for Exhibition of Dahlia Blooms

For the largest and highest possible quality blooms on the large types, only four of the branches on the plant should be allowed to develop to bloom, with all but the lower two shoots on each branch pinched out and usually only the center top bud allowed to develop, with all but the lower two shoots on each branch pinched out and usually only the center top bud allowed to develop, with the other two removed. Six blooms at a time can be allowed on the medium varieties and more on the smaller types.

Size limits on certain types for exhibition:

Ball—over 3½ inches in diameter

Miniature Ball—2 to 3½ inches

Pompon—up to 2 inches

Mignon Single—up to 2 inches

For exhibition purposes, dahlias are classed under the following color categories:

White

Yellow

Orange

Flame 1

Bronze

Red

Dark Red

Light Pink

Dark Pink

Lavender

Purple

Light Blend 2

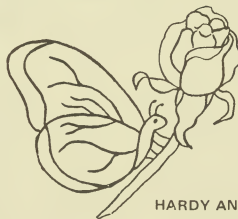
Dark Blend 2

Bi-Color 3

Variegated 4

- 1 Flame—spectral blends of scarlet red or orange with yellow.
- 2 Blend—two or more intermingled colors which gradually merge.
- 3 Bi-Color—two or more distinct colors on the face of the petals.
- 4 Variegated—two or more distinct colors on the petals arranged in dots, flecks, splashes, or narrow lines which contrast with the basic color.

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ROMANCE IN YOUR GARDEN

by Skipper Cope

There is romance in your garden. Every plant bears a history and tells a story of its original home and its wanderings all over the world. If you know a plant's history you can more fully appreciate its beauty and usefulness. When you learn the meaning of a plant's name, you often meet strange facts, and find yourself digging deep into curious arts, sciences and mythologies. Here are a few nuggets of information to help you start finding the romance in your garden.

Do you know that the word chrysanthemum comes from the Greek and means golden flower? Mums originated in Asia and Africa and have been cultivated by the Chinese and Japanese for centuries.

The botanical name for Cape Jasmine is *Gardenia jasminoides*. It was named for a Dr. Garden of Carolina. It is native in south China where the yellow fruit is relished as food.

Tulips are not natives of Holland but have been cultivated in Iran since time immemorial. The word tulip is a contraction of the word for turban or hat. Pansies are crosses of two European violets. So pansies are really violets. Our beautiful oleanders originally came from Jerusalem, India and the island of Ceylon. They graced the romantic gardens of oriental potentates long before America was discovered.

Gladioli come from Europe, Africa and Asia. The word gladiolus, in Latin, means a small sword.

Or maybe you would be interested in knowing that zinnias were named after a German professor, Dr. Zinn. They are natives of Mexico.

You probably never realized that the most important group of plants in the world is not the fruit-bearing plants, the vegetables or the trees, but the grasses! Ninety percent of the food of man comes from the grasses either directly or indirectly. Corn, rye, barley, wheat, sorghum, sugar cane, millet and oats are among the many we depend on for food. Grasses are the predominating feature of the world's vegetation. Yet, few of us pause to consider their great economic importance. Grasses feed the world.

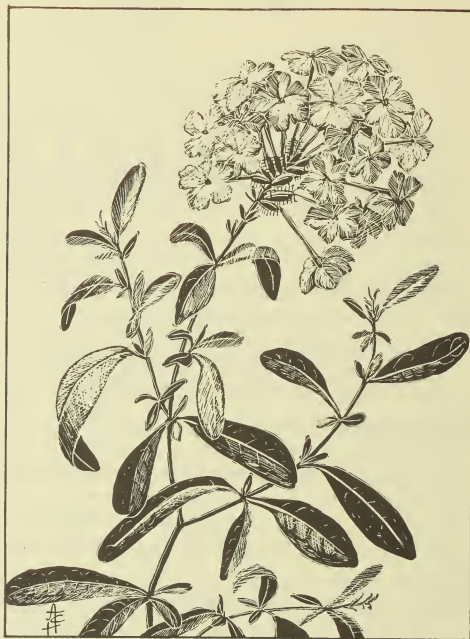
You know, of course, that the red parts of the poinsettia are not flowers but are red leaves. However, did you know that the color of the bougainvillea is not in the tiny flowers but in the three colored bracts which subtend the flowers?

Or, did you ever wonder why plants have colored flowers at all? The flower colors and perfume are simply nature's way of attracting insects to ensure cross pollination. Plants that are pollinated by the wind do not need bright colors or perfume.

Our gardens contain plants from the four corners of the earth. History, science, art and religion are to be found in a garden. Once I found a scarlet pimpernel growing in my lawn. This insignificant little flower brought to mind the old wars of England and France with all of the color and pageantry of that period. It was a living symbol of the past. The lives of people and plants are interwoven. The South will never be separated from its magnolia trees. The English will always have their roses, and the chrysanthemums will live forever in the heart of every Japanese. So let us learn the history of our plants. It will add another dimension to the oldest and most noble recreation known to man.

There really is romance in your garden!

Do You Know This Plant?



- Scientific name:** *Plumbago auriculata* (*P. capensis*)
Commonly called simply 'Plumbago' or 'Cape Plumbago' in reference to its South African origin.
- Habit:** Mounding evergreen shrub to 8 feet tall, may be broader than tall. Will trail down banks, but not upward.
- Foliage:** Leaves light green, 1 to 2 inches long.
- Flowers:** Of a singularly clear pale blue, or white.
- Propagation:** Cuttings
- Garden Use:** Big ground cover (you see it beside freeways). Background filler, or on banks or fences.

Research by Helen Chamlee

Drawing by Alfred C. Hottes †

Antonelli Brothers

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Hoya Vines

by Alice M. Clark

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Hoyas grow best in a northern exposure, as the sun burns their thick leaves elsewhere. Warm days bring out the amazingly elaborate blooms. Old flower stumps should be left on, as new blooms start from them. Flowering begins with twenty brownish-red stems from a short stout stalk. As they grow they develop round buds of the same color. When these buds open, "stars" is the word. Five reddish, sharp-pointed sepals on the back support five stubby reflexed puffs of velvety pink petals. A thick perfectly carved ivory star is set down upon the petals. In turn the star is topped by five short creamy threads separated by what look like five flashes of ruby jewels. Multiply this by twenty and add a delicious scent.

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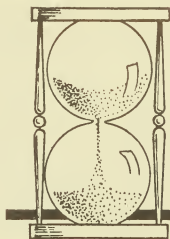
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NOW IS THE TIME

BEGONIAS Margaret Lee

Now is the time—

- to shift into next size pot if needed.
- to inspect and groom your plants regularly during the growing season.
- to make cuttings of material removed in grooming.
- to continue feeding.
- to watch for mildew and spot spray to eliminate.
- to pot rooted leaves and cuttings.
- to remove old flowers from tuberous plants by snapping only the blossoms—not the stem.
- to feed tuberous plants with 'Hi-Bloom'—one tablespoon to one gallon of water, and one tablespoon of fish emulsion to one gallon of water.

BONSAI Dr. Herbert A. Markowitz

Now is the time—

- to view your bonsai; enjoy the fresh growth and beauty.
- to inspect for insects—remove them manually. Also, spray with a good insecticide following instructions on label. (Be careful with elm trees—they usually do not need spraying.)
- to wait until September or October to transplant bonsai.
- to prepare soil for future use; go to the mountains to collect decomposed granite.
- to WATER, WATER—but do not over-water. These are hot months in California; it is best to water early in the day—but some bonsai may need two or three waterings on dry hot days.
- to start air-layer procedure on most trees.
- to remove excess blooms from trees to save their strength for next year. Also defoliate some of the deciduous varieties in July—no later.

BROMELIADS Dr. Norman Lurie

Now is the time—

- to continue feeding plants with half strength fertilizer.
- to remove and pot offsets.
- to water frequently and keep cups clean.
- to maintain insect and snail control program.
- to protect tender plants from hot sun.

CACTUS & SUCCULENTS Verna Pasek

Now is the time—

- to water—soaking the soil evenly is better for you potted plants as well as those in the ground.
- to plan wind breaks to help conserve water and protect new growth from wind and sunburn.
- to make grafts as union will take place better in warm weather.
- to feed with a well balanced fertilizer for new root growth and beautiful blooms.
- to protect against snails and slugs—try beer in jar lids in your garden.
- to repot pot-bound plants.
- to root cuttings and offsets.

CAMELLIAS Les Baskerville

Now is the time—

- to feed with liquid fish, cottonseed meal, or other camellia fertilizers; regular feeding at 6 to 8 week intervals.
- to establish a regular watering program as hot weather begins. Do not let root zone completely dry out—keep damp but **NOT** wet.
- to mulch with an inch-thick application of redwood compost.
- to inspect for aphids or loopers; spray with malathion.
- to give plants iron three times a year.
- to continue light pruning of unwanted branches to shape and allow for good air circulation.

DAHLIAS Abe Janzen

Now is the time—

- to continue regular watering program.
- to tie canes to prevent plants breaking—use one loop for each cane.
- to disbud to encourage better blooms.
- to spray for insects and mildew; keep slugs and snails away.
- to feed with a 5-10-10 fertilizer. Use of potash alone will help promote root growth.
- to keep old blooms cut back to first set of leaves from the main stalk to prolong blooming.

NOTE: Cut blooms in late afternoon or early evening; then place in water immediately.

EPIPHYLLUMS *Mary & Warren Kelly*

Now is the time—

- to repot plants that have outgrown their containers.
- to take new cuttings during the warm weather.
- to keep plants out of full summer sun; they need filtered sunlight and free air movement.
- to watch moisture—spray misting is beneficial during hot dry weather. Spray during evening hours or early morning.
- to watch for pests—spray or drench plants with Cygon to control.
- to fertilize for new growth—use 10-10-15 at this time.

FERNS *Ray Sodomka*

Now is the time—

- to spray for aphids and scale; keep snails, pill-bugs and slugs under control.
- to fertilize plants regularly as they are in their growing period. Use a high-nitrogen fertilizer.
- to water and maintain humidity by keeping surrounding areas damp.
- to trim dead fronds.
- to plant fern spore.
- to check that hot sun is not breaking through saran or lath.

FUCHSIAS *William Selby*

Now is the time—

- to spray to control insects—Orthene will control most species of pests: aphids, leafhoppers, caterpillars, and leaf miners. It seems effective against the flower pests thrips, scale, whitefly, mites and mealybugs.
- to snip off those long runners for shape and new growth.
- to prune lightly to encourage more blooms in fall.
- to keep the foliage misted; spray only in the shade or early evening.
- to watch not to OVER-water—keep damp but not wet.
- to fertilize regularly with high-phosphorous for buds and bloom.
- to keep spent blooms and seed pods picked off for more and larger blooms.
- to keep all leaves, blossoms, and other trash cleaned up to prevent fungus and disease.

GERANIUMS *Carol Roller*

Now is the time—

- to water as needed allowing plants to become somewhat dry between waterings.
- to remove old flower stalks, wayward stems, and discolored leaves.
- to feed with a balanced fertilizer in liquid form—using at half strength twice as often without allowing deficiencies to develop.
- to continue a pest control program for sucking and chewing insects, as well as slugs and snails—using products according to the manufacturers' directions. NEVER apply any chemical to a dry plant.

GERANIUMS (Continued)

- to protect tender plants from the sun if temperatures are high.
- to continue to rotate pots on a regular basis in order to produce well-shaped plants.

GESNERIADS *Mike Ludwig*

Now is the time—

- to keep plants blooming by removing all spent blossoms.
- to take proper action against pests.
- to water regularly; do not allow to dry out as it will bring dormancy to achimenes.
- to protect plants from direct sun. Try to keep at temperatures below 80°-85° F. as these plants suffer from the extremes.
- to enjoy your plants that are growing both indoors and outside. Keep them for pleasure and do not allow them to become a chore.



HEMEROCALLIS *Sanford Roberts*

Now is the time—

- to keep dead leaves cleaned out of beds and individual plants to discourage pests.
- to control aphids, earwigs, and/or sow bugs; use a systemic spray or drench according to manufacturers' directions. CAUTION: Do not use near food producing plants.
- to increase watering schedule if necessary to keep moist—not wet—to promote good growth, strong stalks, and abundant bloom.
- to prepare beds for new plantings—incorporate humus and animal manures except poultry, thoroughly turn under and let mellow before planting.
- to visit gardens and commercial outlets to increase your knowledge of new cultivars and view new colors.
- to order new cultivars for fall delivery.

IRIS *San Diego—Imperial Counties Iris Society*

Now is the time—

- to divide and replant tall-bearded iris discarding old spent rhizome.
- to dust the ends of rhizome with soil sulphur.
- to work humus into the soil to revitalize before replanting.
- to feed those plants left in the ground with a good fertilizer to promote strong growth.
- to keep iris beds clean and free of old fans and weeds.
- to watch for aphids; use a light insecticide or a systemic.
- to cut off spuria foliage, but do not dig until September.

ORCHIDS *Charles Fouquette*

Now is the time—

- to continue watering cymbidiums heavily.
- to feed a high-nitrogen fertilizer to cymbidiums and cattleyas during the growing months.
- to maintain regular program against pests—watch for red spider, scale and/or aphids.
- to spray and mist on HOT DRY days—keep the mix of outdoor plants moist.
- to feed phals and cattleya seedlings half strength complete fertilizer (18-18-18).
- to check light intensity in glass houses—may need shading.

ROSES *Brian Donn*

Now is the time—

- to continue feeding a well-balanced plant food every 3 to 4 weeks.
- to treat those plants with chelated iron that have pale leaves with dark veins (chlorosis).
- to water deeply once a week on light sandy soils; every 10 days to 2 weeks on heavy clay or adobe soils.
- to mulch with steer manure to conserve water and have a balancing effect on the feeding program.
- to watch for rust and eradicate it; remove infected foliage and spray with "Aci-Dion PM".
- to do moderate pruning in late August for abundant fall bloom.

VEGETABLES *George James*

Now is the time—

- to prepare for fall planting by digging soil and mixing in organic soil amendments.
- to set plants of celery, eggplant, peppers, and tomatoes.
- to plant seeds of snap beans, summer squash, corn, cucumber, carrot, beets, radish, turnip, and lettuce.
- to continue to fertilize and to harvest vegetables, while they are young and succulent. They mature quickly during the warm months.
- to irrigate deeply by furrow, flooding, or drip methods.
- to pull or hoe weeds before they are large enough to compete with the vegetables for room, fertilizer, or water.

GREEN THUMB ITEMS *Neerg Bmuht*

Now is the time—

- to pinch back chrysanthemums for lustrous plants and more flowers in late July.
- to plant flowers for fall color; calendulas, cornflowers, stock, snapdragons, zinnias.
- to prepare trench with manure and fertilizer several weeks before planting sweet peas in August.
- to remove tops from narcissi after all foliage has died.
- to plant or divide Shasta daisies.
- to prepare ground in preparation for fall seeding of all crops, vegetables as well as flowers, bulbs, shrubs.
- to prune blackberries, boysenberries, and youngberries as soon as the crops are gathered.

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(Continued from Page 100)

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2936 Havasupai, San Diego 92117

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Pres: Mrs. Jack Paseka (272-0107)
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CORRECTION: In the article "Marigolds" by Josephine Gray, the last line in the next to last paragraph should have read: "Phoebe's gins arise." (May-June, 1980)

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